

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Previously presented) A system for collecting performance data by an operating system that monitors a performance of one or more instructions executing on a computer system, the system comprising:

a data structure in an operating system address space of the computer system and maintained by the operating system for storing at least performance data of the one or more instructions collected by the operating system; and

a virtual memory mapping in the operating system address space that maps the data structure to a monitoring application executing in a user address space of the computer system allowing the monitoring application to read the performance data from the data structure without transferring the performance data to the user address space using a system interrupt.

2. (Original) The system as set forth in claim 1 further including one or more communication parameters maintained in the data structure which are set to pass information between the operating system and the monitoring application without a system call.

3. (Original) The system as set forth in claim 2 wherein the one or more communication parameters include one or more parameters predefined to control handshaking between the operating system and the monitoring application.

4. (Original) The system as set forth in claim 2 wherein the one or more communication parameters include a full flag that when set, instructs the monitoring application to read the performance data from the data structure.

5. (Original) The system as set forth in claim 2 wherein the one or more communication parameters include at least one of: one or more bits, one or more counters, and one or more data registers.

6. (Original) The system as set forth in claim 1 wherein the data structure includes one or more memory buffers, one or more memory locations, one or more data registers, or a combination of each.
7. (Original) The system as set forth in claim 1 further including a plurality of data structures maintained by the operating system to store at least the performance data.
8. (Previously presented) The system as set forth in claim 1 further including a performance monitoring unit in communication with the operating system that collects the performance data of the one or more instructions and loads the performance data into the data structure.
9. (Canceled)
10. (Currently amended) The system as set forth in claim 2 9 further including header information defined within the data structure, the header information containing the one or more communication parameters.
11. (Currently amended) The system as set forth in claim 2 9 wherein the one or more communication parameters include a read parameter that is changeable by the ~~kernel~~ operating system to indicate to the monitoring application that the monitoring application may read the data stored in the data structure.
12. (Currently amended) The system as set forth in claim 2 9 wherein the data structure is a data buffer.
13. (Canceled)
14. (Currently amended) The system as set forth in claim 2 9 further including at least one of memory addresses, counters, and data registers that store the one or more communication parameters.

15. (Currently amended) The system as set forth in claim 2 ~~9~~ wherein the one or more communication parameters are virtually mapped to the monitoring application allowing direct access thereto.

16. (Canceled)

17. (Currently amended) The ~~method~~ system as set forth in claim 1 ~~16~~ ~~further including~~ wherein the operating system ~~collecting~~ collects performance data of a target application and ~~loading~~ stores the performance data ~~into~~ to the data structure.

18. (Currently amended) The ~~method~~ system as set forth in claim 1 ~~16~~ further including one or more communication parameters maintained in the data structure which are set to pass ~~passing~~ instructions between the operating system and the ~~user~~ monitoring application using the data structure without a system call.

19. (Currently amended) The ~~method~~ system as set forth in claim 1 ~~18~~ wherein the one or more communication parameters associated with passing instructions ~~includes setting one or more parameters within the data structure that~~ represent predefined instructions.

20. (Canceled)

21. (Canceled)

22. (Currently amended) The ~~method~~ system as set forth in claim 1 ~~16~~ further including ~~defining~~ an overflow data structure for storing data when the data structure is full.

23. (Canceled)

24. (Currently amended) A computer readable product stored on a computer readable medium comprising:

one or more first computer readable instructions that cause a computer to define a data structure within a kernel address space for storing data;

one or more computer readable instructions that cause the computer to virtually map the data structure to an application in a user address space allowing the application to directly read the data from the data structure in the kernel address space; and

one or more second computer readable instructions that cause the computer to define one or more control parameters associated with the data structure where communication handshaking is established between the kernel address space and the user address space by setting predetermined values for the one or more control parameters.

25. (Canceled)